



# PHTY801

## Foundation Sciences for Physiotherapy B

S2 Day 2018

*Department of Health Professions*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Unit Convenor

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Wednesday to Friday

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Credit points

4

Prerequisites

Admission to DPT

Corequisites

Co-badged status

Unit description

This is the second of two units which will examine of the application of foundation sciences underpinning physiotherapy research and practice. Building on students' pre-requisite and assumed knowledge, the main focus of this unit will be on movement science, with emphasis on understanding the biomechanical and anatomical characteristics of performance of everyday activities in healthy persons and those with musculoskeletal, neurological and cardiorespiratory conditions. Motor development, learning and performance will also be examined and students will acquire skills in clinical observation and measurement of human performance and strategies to promote skill acquisition across the lifespan.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.

Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.

Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.

Generate hypotheses about the likely impairments causing adaptive behaviours during everyday activities in persons with common health conditions.

Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.

Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## General Assessment Information

Information concerning Macquarie University's assessment policy is available at [http://mq.edu.au/policy/docs/assessment/policy\\_2016.html](http://mq.edu.au/policy/docs/assessment/policy_2016.html). Grade descriptors and other information concerning grading requirements are contained in Schedule 1 of the Macquarie University Assessment Policy.

To pass this unit, students must demonstrate sufficient evidence of achievement of the learning outcomes and have attempted all assessment tasks.

Further details for each assessment task will be available on iLearn, including marking rubrics.

All final grades in the Department of Health Professions are determined by a grading committee and are not the sole responsibility of the Unit Convenor.

Students will be awarded one of these grades plus a Standardised Numerical Grade (SNG). The SNG is not necessarily a summation of the individual assessment components. The final grade and SNG that are awarded reflect the corresponding grade descriptor in Schedule 1 of the

Assessment Policy.

### Extensions for Assessment Tasks

Applications for assessment task extensions must be submitted via [www.ask.mq.edu.au](http://www.ask.mq.edu.au). For further details please refer to the Disruption to Studies Policy available at [http://mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://mq.edu.au/policy/docs/disruption_studies/policy.html)

### Late Submission of Work

All assignments which are officially received after the due date, and where no extension has been granted by the Unit Convenor, will incur a deduction of 10% for the first day, and 10% for each subsequent day including the actual day on which the work is received. Weekends and public holidays are included. For example:

Due Date	Received	Days Late	Deduction	Raw Mark	Final Mark
Friday, 14th	Monday, 17th	3	30%	75%	45%

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Quiz</a>	15%	No	Week 6
<a href="#">Clinical Simulation Exam</a>	45%	No	Week 14/15/16
<a href="#">Written Examination 1</a>	20%	No	Week 14/15/16
<a href="#">Written Examination 2</a>	20%	No	Week 14/15/16
<a href="#">Mastery checklist</a>	0%	Yes	Week 14

## Quiz

Due: **Week 6**

Weighting: **15%**

In the quiz, students will be required to answer questions about the unit content that is delivered up to and including week 5. This will include assessment and treatment of strength and co-ordination impairments, balance, observation of movement and principles of training to enhance motor learning.

On successful completion you will be able to:

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.

- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.
- Generate hypotheses about the likely impairments causing adaptive behaviours during everyday activities in persons with common health conditions.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## Clinical Simulation Exam

Due: **Week 14/15/16**

Weighting: **45%**

The clinical simulation exam has three components. Students will be asked to complete each of the following in approximately 13 minutes:

1. Viva - observation, analysis and clinical reasoning of a video of a person with a health condition affecting their performance of an everyday activity.
2. Practical - demonstration of a strength or part practice training strategy
3. Practical - demonstration of a whole task practice training strategy

On successful completion you will be able to:

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.
- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.
- Generate hypotheses about the likely impairments causing adaptive behaviours during

everyday activities in persons with common health conditions.

- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## Written Examination 1

Due: **Week 14/15/16**

Weighting: **20%**

This 3 hour examination is an integrated examination for PHTY800, PHTY801 and PHTY802. The purpose of this approach is to help students integrate the content of the three units to achieve the broad aims of Semester A. The PHTY801 component is worth 20% and questions contributing to PHTY801 will be clearly labelled. The questions will test understanding of all content delivered in this unit of study. The focus of this exam will be the understanding and application of basic knowledge and principles.

On successful completion you will be able to:

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.
- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.
- Generate hypotheses about the likely impairments causing adaptive behaviours during everyday activities in persons with common health conditions.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## Written Examination 2

Due: **Week 14/15/16**

Weighting: **20%**

This 3 hour examination is also an integrated examination for PHTY800, PHTY801 and PHTY802. The purpose of this approach is to help students integrate the content of the three units to achieve the broad aims of Semester A. The PHTY801 component is worth 20% and questions contributing to PHTY801 will be clearly labelled. The questions will test understanding of all content delivered in this unit of study. It will centre on case studies and the application of knowledge to simple cases.

On successful completion you will be able to:

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.
- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.
- Generate hypotheses about the likely impairments causing adaptive behaviours during everyday activities in persons with common health conditions.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## Mastery checklist

Due: **Week 14**

Weighting: **0%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

The Mastery Register will form part of students professional portfolio, which they will assemble over the program. A hurdle requirement is an assessment task mandating a minimum level of performance as a condition of passing a unit of study. The mastery register for PHTY801 FSPB is a list of 10 skills in which competence is considered to be a requirement for the assurance of quality physiotherapy practice for registration. Students must demonstrate a minimum level of competence in these skills as a condition of passing this unit by achieving **60% completion** of the mastery register (that is to achieve completion of **6/10 items**) in order to successfully complete the unit. The Mastery Registry will form part of students' professional portfolio which they will assemble over the program. Students will be responsible for ensuring

that their tutor assesses their competence on the 10 skills during the semester. When students demonstrate competency in a skill the tutor will mark this on the Mastery Register held within the PHTY801 iLearn site.

On successful completion you will be able to:

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## Delivery and Resources

### Unit Organisation

This is a four credit point unit run over a 13 week session. Each week there is a two hour lecture and a two hour tutorial. Further information is available via the PHTY801 iLearn site <http://ilearn.n.mq.edu.au>

### Assumed knowledge

This unit assumes that you have comprehensive knowledge of anatomy and physiology. You should compare your knowledge against the 3 independent learning modules for functional anatomy (these were sent to you via email with the Induction Manual and are also available on the generic iLearn site). If you do not have adequate knowledge in this area you should work through these independent learning modules as a high priority. The learning modules suggest helpful resources.

### Teaching and Learning Strategy

This unit will have a 2 hour lecture and 2 hour tutorial every week. Lectures will provide foundation knowledge and also use large group demonstrations and discussion, enabling students to use tutorial time efficiently to practice observation, assessment and prescription of programs to improve performance of everyday activities and breathing. The teaching approach will be based on students developing a deep understanding of principles and the ability to independently solve problems, with the expectation that students can then translate this knowledge to different scenarios (e.g. patients with similar activity limitations but different diagnoses).

### Textbooks & Readings



### Essential

This unit does not have any textbooks that are essential for you to purchase.

### Recommended

The following texts will be useful resources and available in the library reserve.

Recommendations about specific readings from these and other resources (such as research papers, books, websites and videos) will be listed on iLearn.

- Carr JH and Shepherd RB (2010) *Neurological rehabilitation: Optimizing motor performance (2nd Ed)*. Elsevier Health Sciences.
- Carr JH and Shepherd RB (2003) *Stroke rehabilitation: Guidelines for exercise and training to optimize motor skill*. Oxford: Butterworth Heinemann.
- Magill RA (2011) *Motor Learning and Control: Concepts and Applications (9th Ed)*. New York: McGraw Hill.
- Oatis CA (2009) *Kinesiology: The Mechanics & Pathomechanics of Human Movement (2nd Ed)*. Baltimore: Lippincott Williams and Wilkins.

### **Attendance**

In the Faculty of Medicine and Health Sciences professionalism is a key capability embedded in all our programs. As part of developing professionalism, Faculty of Medicine and Health Sciences students are expected to attend all small group interactive sessions including tutorials, clinical and laboratory practical sessions. In most cases lectures are recorded; however, lecture recordings cannot be guaranteed and some discussion or content may not be available for viewing via the recording system.

All lectures and tutorials are scheduled in your individual timetable. The timetable for classes can be found on the University web site at: <http://www.timetables.mq.edu.au/>. You may make a request to your tutor to attend a different tutorial on a one-off basis for extenuating circumstances.

Failure to attend any learning and teaching activities, including lectures and tutorials, may impact your final results. It is the responsibility of the student to contact their tutor or the unit convenor by email to inform tutors if they are going to be absent.

### **Technology and Equipment**

#### On-campus

Teaching rooms are equipped with state of art audio-visual and ICT equipment including iPads, internet connection, high quality video cameras and multiple LCD screens. Students will use a range of physiotherapy specific equipment typically used in the assessment and management of people with a range of health conditions.

### Off-campus

Should you choose to work off campus you will need to have access to a reliable internet connection in order to retrieve unit information & at times to submit assessment tasks via iLearn.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Undergraduate students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

## Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](https://ask.mq.edu.au).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

## Graduate Capabilities

### PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

### Learning outcomes

- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

### Assessment tasks

- Clinical Simulation Exam

- Written Examination 1
- Written Examination 2

## PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

### Learning outcomes

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.
- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.
- Generate hypotheses about the likely impairments causing adaptive behaviours during everyday activities in persons with common health conditions.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

### Assessment tasks

- Quiz
- Clinical Simulation Exam
- Written Examination 1
- Written Examination 2
- Mastery checklist

## PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is

the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

## **Learning outcomes**

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.
- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.
- Generate hypotheses about the likely impairments causing adaptive behaviours during everyday activities in persons with common health conditions.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## **Assessment tasks**

- Quiz
- Clinical Simulation Exam
- Written Examination 1
- Written Examination 2

## **PG - Research and Problem Solving Capability**

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

## **Learning outcomes**

- Demonstrate proficient knowledge of anatomy and use of surface anatomy to accurately describe and analyse everyday activities.

- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Observe and identify adaptive behaviours during the performance of everyday activities in those with impairments (including loss of coordination, weakness, reduced range of motion and pain) arising from common health conditions by using the characteristics of optimal performance as a model.
- Generate hypotheses about the likely impairments causing adaptive behaviours during everyday activities in persons with common health conditions.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.
- Demonstrate competency in the appropriate selection of measurement tools and measurement of human performance including strategies to enhance the reliability and validity of specific measurement procedures.

## **Assessment tasks**

- Quiz
- Clinical Simulation Exam
- Written Examination 1
- Written Examination 2

## **PG - Effective Communication**

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

## **Learning outcomes**

- Explain the biomechanical characteristics of performance of everyday activities such as rolling, getting out of bed, sitting, standing up, standing, walking, reaching actions and manipulation in healthy persons across the lifespan.
- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.

## **Assessment tasks**

- Quiz
- Clinical Simulation Exam

- Written Examination 1
- Written Examination 2
- Mastery checklist

## **PG - Engaged and Responsible, Active and Ethical Citizens**

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

### **Learning outcome**

- Design a program to enhance motor learning and performance that is specifically tailored to the person's goals and health status.

### **Assessment task**

- Clinical Simulation Exam

## **Changes from Previous Offering**

There has been a re-organisation of content across the units of study offered in the first semester of the Doctor of Physiotherapy Program in 2018. The content for PHTY801 has therefore changed slightly from previous offerings in line with the changes across the semester. PHTY801 focuses primarily on the analysis and training of everyday activities, and the key impairments of reduced strength and coordination.